

the magnetic pole unit having a plurality of magnets magnetized in directions not perpendicular to the predetermined plane and two-dimensionally generating an alternating magnetic field with a period of $4P/3$ in two axis-directions perpendicular to each other, between the armature coils and itself, practically without generating any magnetic field in an area opposite to the armature unit, and the current driving unit to move the magnetic pole unit relatively to the armature unit in a plane parallel to the predetermined plane by supplying currents for the armature coils respectively; and an exposure apparatus making method including the disposing of the stage unit as a position control apparatus to control the position of the substrate. According to this, an exposure unit comprising the second stage unit of the present invention as a position control apparatus to control the position of the substrate is made.

IN THE CLAIMS

Please amend the claims as follows:

4. (Amended) The stage unit according to claim 2, wherein the reaction canceling mechanism generates forces, which cancel the reaction as a whole and have respective predetermined directions, in at least three points of the stator.

9. (Amended) The stage unit according to claim 7, wherein the reaction canceling magnetic pole units generate forces perpendicular to one another on the neighboring corners of the armature unit.

15. (Amended) The stage unit according to claim 11 further comprising:
a position detection system that detects the positional relation between the magnetic and the armature unit; and
a controller that controls at least one of the value and direction of currents supplied to the respective armature coils via the current driver according to the detection results of the

position detection system.

19. An exposure apparatus that transfers a predetermined pattern onto a wafer by irradiating an energy beam and exposing the wafer, comprising:

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a stage unit according to claim 1 as the position controller to control the position of the wafer.

Please add new Claims 22-24 as follows:

22. (New) An exposure apparatus that transfers a predetermined pattern onto a wafer by irradiating an energy beam and exposing the wafer, comprising:

a stage unit according to claim 11 as the position controller to control the position of the wafer.

23. (New) The making method of an exposure apparatus that transfers a predetermined pattern onto a wafer by irradiating an energy beam and exposing the wafer, comprising the steps of:

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G Ad making a stage unit by providing the reaction canceling mechanism that applies a force, which cancels the reaction acting on the stator due to driving of the mover, to the stator by an electromagnetic interaction; and

placing the stage unit as the position controller that controls the position of the wafer.

24. (New) The making method of an exposure apparatus that transfers a predetermined pattern onto a wafer by irradiating an energy beam and exposing the wafer, comprising the steps of:

making a stage unit by providing an armature unit including a plurality of armature coils that are arranged in the shape of a matrix and have current paths almost parallel to the predetermined plane; a magnetic pole unit that has a plurality of magnets magnetized in directions not perpendicular to the predetermined plane and two-dimensionally generates an alternating magnetic field with a period of $4P/3$ in two axis-directions perpendicular to each